RAW SEQUENCE LISTING ERROR REPORT
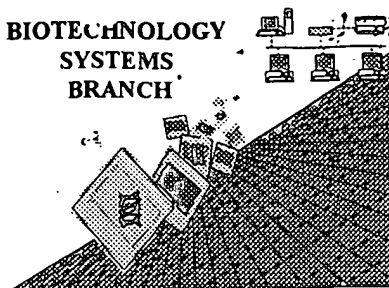
The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: _09/910,082_

Source: _01 RE_

Date Processed by STIC: _7/30/2001_

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:
1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY
FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.
PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)
PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 – 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.
Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:
http://www.uspto.gov/web/offices/pac/checker

OIPE

RAW SEQUENCE LISTING   DATE: 07/30/2001
PATENT APPLICATION: US/09/910,082   TIME: 15:56:11

Input Set : A:\2314-241.ST25.txt
Output Set: N:\CRF3\07302001\I910082.raw

```
 3 <110> APPLICANT: University of Utah Research Foundation
 4       Cognetix, Inc.
 5       Olivera, Baldomero M.
 6       McIntosh, J. Michael
 7       Watkins, Maren
 8       Garrett, James E.
 9       Shon, Ki-Joon
10       Jacobsen, Richard
11       Jones, Robert M.
12       Cartier, G. Edward
14 <120> TITLE OF INVENTION: Omega-Conopeptides
16 <130> FILE REFERENCE: 2314-241
18 <140> CURRENT APPLICATION NUMBER: US/09/910,082
18 <141> CURRENT FILING DATE: 2001-07-23
18 <150> PRIOR APPLICATION NUMBER: US 60/219,616
19 <151> PRIOR FILING DATE: 2000-07-21
21 <150> PRIOR APPLICATION NUMBER: US 60/265,888
22 <151> PRIOR FILING DATE: 2001-02-05
24 <160> NUMBER OF SEQ ID NOS: 413
26 <170> SOFTWARE: PatentIn version 3.0
28 <210> SEQ ID NO: 1
29 <211> LENGTH: 318
30 <212> TYPE: DNA
31 <213> ORGANISM: Unknown
33 <220> FEATURE:
34 <223> OTHER INFORMATION: unknown Conus species
36 <400> SEQUENCE: 1
37 ggatccatga aactgacgtg catggtgatc gtcgccgtgc tgctcctgac ggcctgtcaa    60
39 ctcatcacag ctgatgactc cagaggtacg cagaagcatc atgccctgag gtcgaccacc   120
41 aatttctcca cgttgactcg tcgctgcctt tctcccggat cacgatgtca taagacaatg   180
43 cgtaactgct gcacttcatg ctcttcatac aaagggaaat gtcggcctcg aaaatgaacc   240
45 actcatcacc tactcctctg gaggcctcag aggaattaca ttgaaataaa agccgcatta   300
47 caaaaaaaaa aaaaaaaa                                                  318
50 <210> SEQ ID NO: 2
51 <211> LENGTH: 76
52 <212> TYPE: PRT
53 <213> ORGANISM: Unknown
55 <220> FEATURE:
56 <223> OTHER INFORMATION: unknown Conus species
58 <400> SEQUENCE: 2
60 Met Lys Leu Thr Cys Met Val Ile Val Ala Val Leu Leu Leu Thr Ala
61 1               5                  10                  15
63 Cys Gln Leu Ile Thr Ala Asp Asp Ser Arg Gly Thr Gln Lys His His
64              20                  25                  30
66 Ala Leu Arg Ser Thr Thr Asn Phe Ser Thr Leu Thr Arg Arg Cys Leu
67          35                  40                  45
69 Ser Pro Gly Ser Arg Cys His Lys Thr Met Arg Asn Cys Cys Thr Ser
```

*Does Not Comply
Corrected Diskette Needed*

RAW SEQUENCE LISTING   DATE: 07/30/2001
PATENT APPLICATION: US/09/910,082   TIME: 15:56:11

Input Set : A:\2314-241.ST25.txt
Output Set: N:\CRF3\07302001\I910082.raw

```
70      50                    55                   60
72 Cys Ser Ser Tyr Lys Gly Lys Cys Arg Pro Arg Lys
73 65                   70                   75
75 <210> SEQ ID NO: 3
76 <211> LENGTH: 30
77 <212> TYPE: PRT
78 <213> ORGANISM: Unknown
80 <220> FEATURE:
81 <223> OTHER INFORMATION: unknown Conus species
83 <220> FEATURE:
84 <221> NAME/KEY: PEPTIDE
85 <222> LOCATION: (1)..(30)
86 <223> OTHER INFORMATION: Xaa at residue 4 and 28 is Pro or Hyp; Xaa at residue 22 is
```
Tyr,
```
87      125I-Tyr, mono-iodo-Tyr, di-iodo-Tyr, O-sulpho-Tyr or O-phospho-T
88      (y) ? O-phospho-Tyr ?
91 <400> SEQUENCE: 3
```
W-->
```
93 Cys Leu Ser Xaa Gly Ser Arg Cys His Lys Thr Met Arg Asn Cys Cys
94 1            5                   10                  15
```
W-->
```
96 Thr Ser Cys Ser Ser Xaa Lys Gly Lys Cys Arg Xaa Arg Lys
97              20          25              30
99 <210> SEQ ID NO: 4
100 <211> LENGTH: 283
101 <212> TYPE: DNA
102 <213> ORGANISM: Unknown
104 <220> FEATURE:
105 <223> OTHER INFORMATION: unknown Conus species
107 <400> SEQUENCE: 4
108 ggatccatga aactgacgtg cgtggtgatc gtcgccgtgc tgctcctgac ggtctgtcaa     60
110 ctcatcacag ctgatgactc cagaggtacg cagaagcatc atgccctgag gtcgaccacc    120
112 aatttctcca cgtcgactcg tcgctgcaaa cctcccggaa gaaaatgtct gaatagaaag    180
114 aatgaatgct gcagcaagtt ttgcaatgaa cacctacata tgtgtggata aatggctaaa    240
116 aactgaataa aagccgcatt gcaaaaaaaa aaaaaaaaaa aaa                       283
119 <210> SEQ ID NO: 5
120 <211> LENGTH: 74
121 <212> TYPE: PRT
122 <213> ORGANISM: Unknown
124 <220> FEATURE:
125 <223> OTHER INFORMATION: unknown Conus species
127 <400> SEQUENCE: 5
129 Met Lys Leu Thr Cys Val Val Ile Val Ala Val Leu Leu Leu Thr Val
130 1               5                   10                  15
132 Cys Gln Leu Ile Thr Ala Asp Asp Ser Arg Gly Thr Gln Lys His His
133              20                  25                  30
135 Ala Leu Arg Ser Thr Thr Asn Phe Ser Thr Ser Thr Arg Arg Cys Lys
136          35                  40                  45
138 Pro Pro Gly Arg Lys Cys Leu Asn Arg Lys Asn Glu Cys Cys Ser Lys
139      50                  55                  60
141 Phe Cys Asn Glu His Leu His Met Cys Gly
142 65                  70
```

RAW SEQUENCE LISTING   DATE: 07/30/2001
PATENT APPLICATION: US/09/910,082   TIME: 15:56:11

Input Set : A:\2314-241.ST25.txt
Output Set: N:\CRF3\07302001\I910082.raw

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144 <210> SEQ ID NO: 6
145 <211> LENGTH: 27
146 <212> TYPE: PRT
147 <213> ORGANISM: Unknown
149 <220> FEATURE:
150 <223> OTHER INFORMATION: unknown Conus species
152 <220> FEATURE:
153 <221> NAME/KEY: PEPTIDE
154 <222> LOCATION: (1)..(27)
155 <223> OTHER INFORMATION: Xaa at residue 14 and 22 is Glu or gamma-carboxy Glu; Xaa at
resi
156          due 3 and 4 is Pro or Hyp
159 <400> SEQUENCE: 6
W--> 161 Cys Lys Xaa Xaa Gly Arg Lys Cys Leu Asn Arg Lys Asn Xaa Cys Cys
162  1               5                   10              15
W--> 164 Ser Lys Phe Cys Asn Xaa His Leu His Met Cys
165                  20                  25
167 <210> SEQ ID NO: 7
168 <211> LENGTH: 275
169 <212> TYPE: DNA
170 <213> ORGANISM: Unknown
172 <220> FEATURE:
173 <223> OTHER INFORMATION: unknown Conus species
175 <400> SEQUENCE: 7
176 ggatccatga aactgacgtg cgtggtgatc gtcgccgtgc tgctcctgac ggcctgtcaa      60
178 ctcgtcacag ctgatggctc cagaggtatg cagaagcatt atgccctgag gtcgaccacc     120
180 aatctctcca tatcgtctcg ctgcaaacct cccagaagaa aatgtctgaa gattaaggat     180
182 aaatgctgca acttttgcaa tacacaccta aatatgtgtg gataaatggc taaaaactga     240
184 ataaaagccg cattgcaaaa aaaaaaaaaa aaaaa                                275
187 <210> SEQ ID NO: 8
188 <211> LENGTH: 72
189 <212> TYPE: PRT
190 <213> ORGANISM: Unknown
192 <220> FEATURE:
193 <223> OTHER INFORMATION: unknown Conus species
195 <400> SEQUENCE: 8
197 Met Lys Leu Thr Cys Val Val Ile Val Ala Val Leu Leu Leu Thr Ala
198  1               5                   10              15
200 Cys Gln Leu Val Thr Ala Asp Gly Ser Arg Gly Met Gln Lys His Tyr
201                  20                  25                  30
203 Ala Leu Arg Ser Thr Thr Asn Leu Ser Ile Ser Ser Arg Cys Lys Pro
204                  35                  40                  45
206 Pro Arg Arg Lys Cys Leu Lys Ile Lys Asp Lys Cys Cys Asn Phe Cys
207      50                  55                  60
209 Asn Thr His Leu Asn Met Cys Gly
210 65                  70
212 <210> SEQ ID NO: 9
213 <211> LENGTH: 26
214 <212> TYPE: PRT
215 <213> ORGANISM: Unknown
```

```
217 <220> FEATURE:
218 <223> OTHER INFORMATION: unknown Conus species
220 <220> FEATURE:
221 <221> NAME/KEY: PEPTIDE
222 <222> LOCATION: (1)..(26)
223 <223> OTHER INFORMATION: Xaa at residue 3 and 4 is Pro or Hyp
226 <400> SEQUENCE: 9
228 Cys Lys Xaa Xaa Arg Arg Lys Cys Leu Lys Ile Lys Asp Lys Cys Cys
229 1               5                   10                  15
231 Asn Phe Cys Asn Thr His Leu Asn Met Cys
232             20                  25
234 <210> SEQ ID NO: 10
235 <211> LENGTH: 377
236 <212> TYPE: DNA
237 <213> ORGANISM: Unknown
239 <220> FEATURE:
240 <223> OTHER INFORMATION: unknown Conus species
242 <400> SEQUENCE: 10
243 ggatccatga aactgacgtg tgtggtgatc gtcgccgtgc tgctcctgat ggcctgtcaa    60
245 ctcgtcacag ctgatggctc cagaggtatg cacaagcatt atgccctgag gtcgaccacc   120
247 aaactctcca tgtcgactcg ctgcgcaggt ccaggaacaa tttgtcctaa tagggtatgc   180
249 tgcggttatt gcagtaaaag aacacatcta tgtcattcgc gaactggctg atcttccccc   240
251 ttctgcgctc catcctttc tgcctgagtc ctccatacct gagaatggtc atgaaccact   300
253 caacacctac tcctctggag ggcctcagaa gagctacatt gaaataaaag ccgcattaca   360
255 aaaaaaaaaa aaaaaaa                                                  377
258 <210> SEQ ID NO: 11
259 <211> LENGTH: 74
260 <212> TYPE: PRT
261 <213> ORGANISM: Unknown
263 <220> FEATURE:
264 <223> OTHER INFORMATION: unknown Conus species
266 <400> SEQUENCE: 11
268 Met Lys Leu Thr Cys Val Val Ile Val Ala Val Leu Leu Leu Met Ala
269 1               5                   10                  15
271 Cys Gln Leu Val Thr Ala Asp Gly Ser Arg Gly Met His Lys His Tyr
272             20                  25                  30
274 Ala Leu Arg Ser Thr Thr Lys Leu Ser Met Ser Thr Arg Cys Ala Gly
275             35                  40                  45
277 Pro Gly Thr Ile Cys Pro Asn Arg Val Cys Cys Gly Tyr Cys Ser Lys
278       50                  55                  60
280 Arg Thr His Leu Cys His Ser Arg Thr Gly
281 65                  70
283 <210> SEQ ID NO: 12
284 <211> LENGTH: 28
285 <212> TYPE: PRT
286 <213> ORGANISM: Unknown
288 <220> FEATURE:
289 <223> OTHER INFORMATION: unknown Conus species
291 <220> FEATURE:
```

```
292 <221> NAME/KEY: PEPTIDE
293 <222> LOCATION: (1)..(28)
294 <223> OTHER INFORMATION: Xaa at residue 4 and 9 is Pro or Hyp; Xaa at residue 16 is
Tyr, 1
295        25I-Tyr, mono-iodo-Tyr, di-iodo-Tyr, O-sulpho-Tyr or O-phospho Ty Tyr?
299 <400> SEQUENCE: 12
W--> 301 Cys Ala Gly Xaa Gly Thr Ile Cys Xaa Asn Arg Val Cys Cys Gly Xaa
302 1               5                   10                  15
304 Cys Ser Lys Arg Thr His Leu Cys His Ser Arg Thr
305             20                  25

307 <210> SEQ ID NO: 13
308 <211> LENGTH: 323
309 <212> TYPE: DNA
310 <213> ORGANISM: Conus arenatus
312 <400> SEQUENCE: 13
313 ggatccatga aactgacgtg catggtgatc atcgccgtgc tgttcctgac ggcctgtcaa     60
315 ctcattacag gtgagcagaa ggaccatgct ctgaggtcaa ctgacaaaaa ctccaagttg    120
317 actaggcagt gctcggctaa cggtggatct tgtactcgtc attttcactg ctgcagcctc    180
319 tattgcaata aagattccag tgtatgtgtg gcaacctcat acccgtgagt ggccatgaac    240
321 ccctcaatac cctctcctct ggaggcttca gaggaactgc attgaaataa aaccgcattg    300
323 caataaaaaa aaaaaaaaaa aaa                                            323

326 <210> SEQ ID NO: 14
327 <211> LENGTH: 73
328 <212> TYPE: PRT
329 <213> ORGANISM: Conus arenatus
331 <400> SEQUENCE: 14
333 Met Lys Leu Thr Cys Met Val Ile Ile Ala Val Leu Phe Leu Thr Ala
334 1               5                   10                  15
336 Cys Gln Leu Ile Thr Gly Glu Gln Lys Asp His Ala Leu Arg Ser Thr
337             20                  25                  30
339 Asp Lys Asn Ser Lys Leu Thr Arg Gln Cys Ser Ala Asn Gly Gly Ser
340         35                  40                  45
342 Cys Thr Arg His Phe His Cys Cys Ser Leu Tyr Cys Asn Lys Asp Ser
343     50                  55                  60
345 Ser Val Cys Val Ala Thr Ser Tyr Pro
346 65                  70

348 <210> SEQ ID NO: 15
349 <211> LENGTH: 33
350 <212> TYPE: PRT
351 <213> ORGANISM: Conus arenatus
353 <220> FEATURE:
354 <221> NAME/KEY: PEPTIDE
355 <222> LOCATION: (1)..(33)
356 <223> OTHER INFORMATION: Xaa at residue 1 is Gln or pyro-Glu; Xaa at residue 33 is Pro
or H
357        yp; Xaa at residue 19 and 32 is Tyr, 125I-Tyr, mono-iodo-Tyr, di-
358        iodo-Tyr, O-sulpho-Tyr or O-phospho Ty Tyr?
361 <400> SEQUENCE: 15
W--> 363 Xaa Cys Ser Ala Asn Gly Gly Ser Cys Thr Arg His Phe His Cys Cys
364 1               5                   10                  15
W--> 366 Ser Leu Xaa Cys Asn Lys Asp Ser Ser Val Cys Val Ala Thr Ser Xaa
```

Use of n and/or Xaa has been detected in the Sequence Listing.
Review the Sequence Listing to insure a corresponding
explanation is presented in the <220> to <223> fields of
each sequence using n or Xaa.

VERIFICATION SUMMARY   DATE: 07/30/2001
PATENT APPLICATION: **US/09/910,082**   TIME: 15:56:12

Input Set : **A:\2314-241.ST25.txt**
Output Set: **N:\CRF3\07302001\I910082.raw**

```
L:18 M:270 C: Current Application Number differs, Replaced Current Application No
L:18 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:93 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:96 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:161 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:164 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:228 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:301 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:363 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:366 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:369 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:428 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:431 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:490 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:493 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:496 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:555 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24
L:558 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24
L:618 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27
L:646 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28
L:686 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30
L:748 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33
L:751 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33
L:810 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36
L:813 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36
L:873 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39
L:937 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42
L:940 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42
L:1000 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45
L:1064 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48
L:1067 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48
L:1128 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51
L:1131 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51
L:1134 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51
L:1195 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54
L:1198 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54
L:1259 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:57
L:1262 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:57
L:1323 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60
L:1326 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60
L:1387 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:63
L:1390 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:63
L:1393 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:63
L:1453 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:66
L:1515 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:69
L:1518 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:69
L:1521 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:69
L:1551 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:71
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VERIFICATION SUMMARY
PATENT APPLICATION: US/09/910,082

DATE: 07/30/2001
TIME: 15:56:12

Input Set : A:\2314-241.ST25.txt
Output Set: N:\CRF3\07302001\I910082.raw

L:1599 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:74
L:1647 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:77
L:1694 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:80
L:1743 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:83